

A NEW SPECIES OF *LEPIDOPHORA* WESTWOOD
(DIPTERA: BOMBYLIIDAE) FROM COSTA RICA
REARED FROM *TRYPOXYLON* LATREILLE
(HYMENOPTERA: SPHECIDAE)¹

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ABSTRACT: The adult of *Lepidophora trypoxylona* new species and its pupal exuvium are described and figured. *Trypoxylon* (*Trypargilum*) *tenocitlan* Richards (Sphecidae) is recorded as host of this bee fly.

Lepidophora Westwood is restricted to the New World with most species being described from Central and South America. The present description of the new species, *Lepidophora trypoxylona*, brings the total known species to eight.

Specimens of *L. trypoxylona* n.sp. were reared from nests of *Trypoxylon* (*Trypargilum*) *tenocitlan* Richards in Costa Rica by R.E. Coville. Specimens submitted by Coville to me for identification were identified as *Lepidophora vetusta* Walker. Coville and Coville (1980) gave a brief account of the life history of the bee fly, as *L. vetusta*. Further examination of additional material sent for identification showed this species to be undescribed.

Coville's host record makes *L. trypoxylona* the second species within the genus for which host information is known. DuMerle (1975) lists hosts for *Lepidophora lepidocera* (Wiedemann) as *Trypoxylon politum* (Say) (Sphecidae), *Podium rufipes* Fab. (Sphecidae) and *Stenodynerus saecularis rufulus* Bohart (Eumenidae), plus one questionable host, *Euodynerus foraminatus apopkinsis* (Robertson) (Eumenidae).

L. trypoxylona runs to *vetusta* in Paramonov's (1949) key to species of *Lepidophora*. *Trypoxylona* differs from *vetusta* in the darker scutellum and legs and by the less extensive white tomentose abdominal markings. In *vetusta* the wing infuscations are a little darker and more extensive, the anal cell being nearly entirely colored.

Lepidophora trypoxylona n.sp.

Male. — Body black, front, face, humerus, and side of mesonotum to transverse suture, pleura, coxae, scutellum slightly brownish. Eyes separated by width of ocellar tubercle; small area in front of ocellar tubercle bare, rest of front of black hair and mixed black and white scales; first antennal segment at least 3 times longer than second segment, with black scales

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(some of the scales are brownish and translucent and appear white or whitish in reflected light); second antennal segment covered with scales and about equal in length to third segment; third segment broadly rounded apically, with long black scales covering basal $2/3$ or more on outer surface, scales do not exceed $2/3$ length of third segment; arista minute, subapical, in a small circular depression. Face with long black scales on upper half, lower half with black hair. Proboscis short, not reaching second antennal segment. Underside of head and lower occiput with black hair; rest of occiput with short, scattered, strong black bristles and white scales, a few black scales next to eye margin and behind ocellar tubercle.

Pronotum white pilose, a few shorter black hairs present near base laterally, black bristles laterally; mesonotum with short black hair, tomentum white, dorsum of notum with three vague stripes of black tomentum, median stripe divided by white scales, lateral stripes reach from midpoint of notum to posterior margin; prealar and postalar bristles strong, black; scutellum with black hair, tomentum, and bristles, patch of white scales in middle of posterior margin; pleura mixed white and black pilose, white hairs dominate on upper half; coxae with mixed white and black hair; legs black with black tomentum and bristles, white tomentum on posterior surfaces of femora and tibiae; pulvilli nearly as long as claws; halter stem black with short appressed white hair, knob creamy yellow.

Basicosta of wing with black scales, extreme base with a patch of white hair; wing infuscated with blackish brown, apex and posterior margin of wing hyaline, color not filling apex of marginal cell and not extending much beyond apex of discal cell in first posterior cell; anal and axillary cells hyaline except for extreme base; wing membrane with scattered black scales covering most of the infuscated area; vein R_2+3 convoluted apically, with a short spur at bottom loop; vein R_4 convolutes "S" shaped ending in wing margin parallel to vein R_2+3 ; r-m crossvein slightly beyond middle of discal cell; anal cell closed at wing margin; costa tuberculate from near midlength to just beyond apex of vein R_2+3 .

Abdominal dorsum with black hair laterally, a few scattered white hairs at sides of tergites two and three; dorsum densely covered with black scales which are much longer on sides of tergites six and seven; white scales across posterior margin of first tergite; spot of white scales laterally on tergites two, three, four, and at base of five, the spots forming a vague line along side of tergum; spot of white scales in middle of tergite six; venter of abdomen with short, scattered black hair and black scales; genitalia enclosed in terminal segments and hidden by apical abdominal tuft of long black scales.

Female. — Eyes separated by 3 times width of ocellar tubercle; front with strong, black, bristle-like hairs; side and apical margin of scutellum with white hair; costa of wing not tuberculate; vein R_2+3 infuscated its entire length; vein R_4 with small area of infuscation near apex; areas of diffused color around crossveins at bases of all posterior cells; white hair and scales on head and body more abundant. Female otherwise as described for male.

Variations. — In some males the spot of white scales in the middle of tergite six is wanting as well as the lateral abdominal spots on tergites two to four. The amount and extent of white scales in both sexes is subject to considerable variation. The stripes of black scales on the mesonotum may not be present. The wing coloring in the female is often like that in the male. The black scales on the abdominal dorsum of some species are iridescent, reflecting a lavender color.

Pupal exuvium (Figs. 1-2). — Pale testaceous, cephalic thorns and abdominal setae black, apical half of wing pads darkened. Thoracic and abdominal spiracles raised, each appearing as a corneous circle marked with radiating lines. Head with six pairs of thorns or tubercles, one small pair on dorsum, one large pair on upper part of front, one medium sized pair in middle of front, three small pairs on lower part of front, these latter tubercles all have a common base; surface sculpture of the thorns is striate-rugose; base of proboscis with a pair of small tubercles; cheek with a small tubercle; a thin seta present between the tubercles on the proboscis and cheek; lower posterior corner of head with two small tubercles, a thin seta between them; two long, thin setae at bases of upper cephalic tubercles. Thorax twice as long

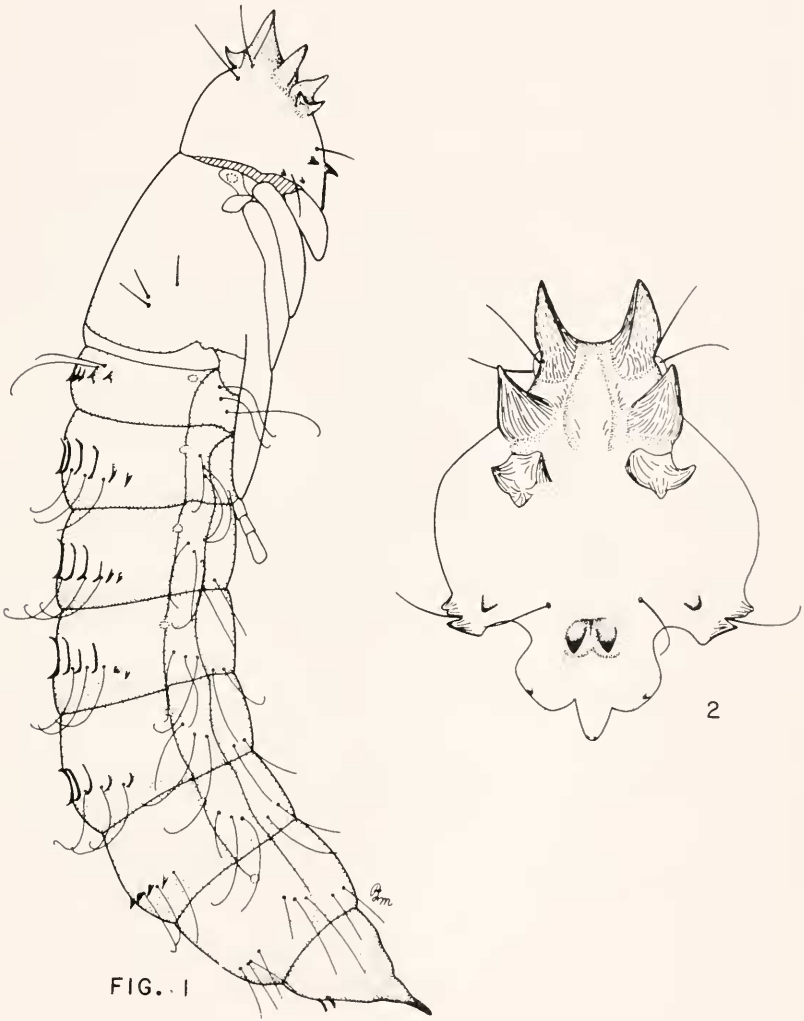


Fig. 1. Lateral view of pupal case of *Lepidophora trypoxylona* n.sp.

Fig. 2. Ventral view of head capsule of *Lepidophora trypoxylona* n.sp.

as wide, equal in width to head, with three fine, short hairs each side medially, wing pads extend to posterior margin of second abdominal sternite; leg sheaths extend to slightly beyond middle of third sternite. Abdomen with eight segments, first five tergites with a row of 8 to 11 stout setae, those on tergite one with only their apices turned up; tergite six with six small setae; tergite seven with a single median seta, and one pair of small setae on basal half; tergites one to seven each with six long, curved and apically hooked hairs, those on first tergite arise cephalad to the setae; those on rest of tergites arise between the setae; sternites, except last, each with five long, thin apically hooked hairs, three laterally and two just lateral of midline; apex of abdomen with one pair of straight, strong tubercles.

Holotype male from Costa Rica, Guanacasta Province, 15 km SW Baqaces, Comelco 25-II-75 (R. Coville); allotype from Costa Rica, Guanacasta Province, 4 km NW Cañas, La Pacifica 14-II-75 (R. Coville). Both reared from nest of *Trypoxylon* (*Trypargilum*) *tenocitlan* Richards.

Paratypes. — All reared from trap-nests of *Trypoxylon* (*Trypargilum*) *tenocitlan* by R.E. Coville, in Costa Rica. 1♀, topotypic, collected with holotype; 2♀, 1♂, same locality data as allotype, 30-III-80, 7-II-75; 4♀, 3♂, Heredia Province, La Salva, 4 km SE Puerto Viejo, 16-VII-80, 1-VIII-80, 16-VIII-80, 24-VIII-80.

Holotype and allotype in California Academy of Sciences. Paratypes in collections at University of California at Berkeley and Riverside.

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- 2178 *Nomioides* Schenck, 1866, (Insecta, Hymenoptera, Halictidae):
proposed designation of type species.
- 2187 Corrections to data of three family-group names of butterflies on the
official list (Insecta, Lepidoptera).

R.V. MELVILLE,
Secretary